REPORT of November 2nd MEETING of the FFCC

A videoconference of the Fusion Facilities Coordinating Committee was held on November 2nd. We used a videoconference format to save on travel and time. A few comments will be made at the end of the report regarding our experience with videoconferencing.

The meeting began with John Willis describing the importance of describing the program results in intelligible language, since we are the largest fraction of the budget and indicated that the FWP submissions had been useful. Mike Roberts indicated interest in the discussion on operations and safety issues and that the office was developing a mission statement for their activities in this area.

Ian, Tom, Martin and Ned led the main part of the discussion on the program highlights for FY'99 and how their programs relate to the FESAC recommendations. I will not try to paraphrase their presentations here. Several action items came out of the discussion.

The Program Heads have asked for input on their presentations of program results and will update their FY'99 highlights by November 23. I will then submit to DOE a package of FY'99 highlights, which can be used to describe our program in the budget submission. The format will be a brief one-line headline followed by a short paragraph describing the result and the ramifications of the result. The ramifications of the results can be written on two levels. The first is to describe the impact on the science we are studying. The second is to describe the impact on the goals for each program as outlined in the FESAC recommendations. The audience for the report will be people not familiar with our field or our jargon. It appears that an indication of what will be accomplished will be provided annually at the FWP and this provides input to the development of the draft budget submissions. The Program Leaders will be expected to update the summaries of their accomplishments in November (around the APS-DPP meeting) and provide them to DOE prior to the development of the final budget language (which is generally around Thanksgiving).

Only Tom and Ned had described how their respective program future goals relate to the FESAC recommendations. Hence, more work is needed on this topic. Thus, wee decided to defer this till after the PACs met in January/February. (The DIII-D DAC will meet Jan. 20/21. C-Mod expects to have their PAC meeting Early February and NSTX mid-to-late February.) How the facilities address the FESAC recommendations will be an important element in the development of the FWPs. A discussion ensued about whether it was sufficient that the large devices contribute to Goal 1, physics understanding. Everyone agreed that we should clearly demonstrate the contribution to Goal 1, since a significant effort is being made on the large facilities to develop our physics understanding. However, for the large facilities, it is necessary to show how they contribute to and make progress on their primary programmatic goals (2 and/or 3). An implicit assumption in the timing of our reports is that FESAC will not require a summary of the accomplishments and goals from the large Programs prior to this spring.

Ned and Erol led the discussion of international collaborations. Part of the discussion was a status report but several issues came up. The importance of Goal 4 in international collaborations was noted, since a significant effort in technology development is international. Another issue was whether the collaborations were focused on a 5-year assessment point, which could preclude collaboration with KSTAR. The sense of the discussion was that we need to look beyond 5 years in such collaborations and as a result we do not want to preclude collaboration with KSTAR. It is not clear how new players can become involved in international collaborations and that should be defined. A broader issue is that in the past year detailed lists of opportunities for international collaboration have been developed. What is now clearly needed is a method to select which opportunities will be exploited in a limited budget and which participants selected to do the work. John Willis described that within the present budget there is insufficient funding to enable a major expansion of the international collaboration program. The increased funding this year is seed money to explore new opportunities such that if the budget were increased next year we would be well positioned. While this was supported, there was negative reaction to the concept that we needed to provide substantial hardware to become a major player in for instance JET. The argument is that our international partners will welcome us because of our experience and the tools (diagnostics and codes) that we bring to the collaboration. The purpose of a large hardware commitment is to obtain a formal input into the direction of the program. The general sense was that an overall budget increase was needed to enhance

these collaborations and could be used to justify such an increase. Perhaps, because we were not prepared to analyze the FESAC budget recommendations, it was not clear how much of the increase would actually be spent on international collaborations compared with augmenting the domestic program.

An open issue is the legal framework for conducting such collaborations. Mike Roberts described the efforts to use the Large Tokamak agreement and the problems he has encountered and the possible use of bilateral arrangements. This is a potentially serious problem, if it can not be resolved in a timely manner.

The final topic of the meeting was related to process improvement and improved coordination between laboratories led by Rich.

Collaboration between facilities and the fusion community is increasingly important. One of the major issues is the congressionally mandated travel restriction. While the details of this have not been worked out, this is potentially a very serious problem affecting the national laboratories. The restrictions are being appealed but it is too early to tell what the final outcome will be. The PPPL priority is Off-site research, program reviews, and scientific meetings. Though DIII-D and C-Mod are not directly affected by this, DIII-D is planning on reducing travel by 20% and will make the reductions in the number of participants at workshops and international collaboration but not at the APS meeting.

With the potential reduction on travel, tools to enhance remote collaborations and meetings are important. Presently, both C-Mod on Monday at 4:00EST and NSTX also on Monday but at 1:30EST broadcast their physics meetings. DIII-D has their meeting on Friday at 10:00PST but does not broadcast it. As we found in this meeting, there are limitations of the Showstations and broadcasting these meetings. Nonetheless both C-Mod and NSTX in support of their collaborators are supporting this. The problem with the Showstation is that unless care is taken in making viewgraphs with thick lines and large fonts the graphics are hard to read. The Showstations can read PowerPoint documents, which reduces the problem, but PowerPoint is not widely used by the research staff. Some groups have found pre-distribution of pdf files as necessary. There are advantages and disadvantages to this as well, including the obvious that it does not facilitate the inclusion of either late breaking news or results from a hard working but tardy speaker. In support of the NSTX physics meeting, an enhanced audio system has been implemented to enable the participants to hear comments from anyone in the room and make comments. Even during our meeting (which was not held in the conference room used by NSTX), the audio was uneven. Last year's efforts in this area have been a valuable start but more needs to be done.

The different facilities have different publication policies which address: responsibility for publication of results; accuracy of results and assessment of author list; patents and intellectual property rights; and citation of DOE in acknowledgements. PPPL is in the process of updating its policies and realized that it was imperative that it be done in a coordinated manner with the institutions PPPL is collaborating with in both as a host facility and as collaborator. There was general agreement that a community-wide policy guideline would be beneficial. Rich will distribute a first draft after the APS meeting to the facilities and involve the UFA in the discussions.

The evolution of the fusion program has resulted in less breadth and dept in a variety of technical areas including ES&H, vacuum materials, RF technology etc. There was some sentiment that informal sharing of experience and lessons-learned would be useful. However, travel restrictions will impede such interactions. As a first step, the facilities have exchanged copies of their organization charts to facilitate the exchange of information and will encourage our staff to be supportive of each other. Videoconferencing may be another way to facilitate discussion and interaction. Groups wishing to get together and discuss common issues are encouraged to do so.